

CLAIMS

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is as follows:

- 1 1. A computer implemented product catalog for use in a web-centric
2 collaborative engineering environment (CEE) for providing an inter-
3 enterprise collaborative mechanism for organizations developing and
4 maintaining complex system products, the CEE providing a federated
5 architecture linking multiple systems and applications together to enable
6 collaboration among enterprise members, comprising:
 - 7 an object oriented database management system (ODBMS)
8 managing an associative object model (product model) for providing a
9 persistent understanding of product and program information, assets and
10 tools available in the enterprise;
11 a plurality of part objects forming a product catalog, the part
12 objects being defined by the product model and stored in the ODBMS,
13 wherein each part object has intrinsic characteristics corresponding to a
14 default environment, the product catalog providing an application
15 independent means for supporting engineering tools through intelligent
16 interfaces;
17 means for generating part references, where a part reference refers
18 to a corresponding part object in the product catalog, and wherein the part
19 reference has characteristics customized for a project that override or
20 extend the intrinsic characteristics of its corresponding part object; and
21 means for linking members of the enterprise with part objects and
22 customized part references via a collaborative engineering environment
23 (CEE), the CEE having a framework for collaboration which provides
24 access control, security, search mechanisms, concurrency control,
25 versioning, information structuring, information mapping and exchange,

26 wherein the information available to each member is information
27 necessary for the member to complete role and team based tasks, and
28 wherein the linking means comprises a plurality of tools, each tool
29 communicating information with the ODBMS.

1 2. A system as recited in claim 1, wherein a part object is a collection of
2 one or more other part objects.

1 3. A system as recited in claim 1, wherein a part objects represent
2 commercial-off-the-shelf (COTS) hardware, electrical, software, or
3 abstract component types.

1 4. A system as recited in claim 1, wherein the product catalog supports
2 part objects representing commercial-off-the-shelf (COTS) hardware,
3 electrical, software, and abstract component types.

1 5. A system as recited in claim 1, wherein the product catalog provides a
2 single point of information management with unlimited application by
3 reference.

1 6. A system as recited in claim 1, wherein the CEE enables members of
2 the enterprise to capture technology and model information and associate
3 the captured information with a system component for entry into the
4 product catalog.

1 7. A system as recited in claim 6, wherein the parts and components in the
2 product catalog are extensible to an existing user community in an
3 enterprise, the user community requiring customization of parts for use in
4 projects associated with the enterprise.

21 information stored in the ODBMS by other members, wherein each
22 member performs domain specific tasks using customized tools and
23 applications and stores results of their performed tasks in the ODBMS,
24 thereby allowing access of their information by other members of the
25 enterprise.

1 12. A method as recited in claim 11, wherein the product catalog utilized
2 for identifying parts in the identifying step and providing new parts in the
3 providing steps comprises:

4 an object oriented database management system (ODBMS)
5 managing an associative object model (product model) for providing a
6 persistent understanding of product and program information, assets and
7 tools available in the enterprise;

8 a plurality of part objects forming a product catalog, the part
9 objects being defined by the product model and stored in the ODBMS,
10 wherein each part object has default characteristics corresponding to a
11 default environment;

12 means for generating part references, where a part reference refers
13 to a corresponding part object in the product catalog, and wherein the part
14 reference has characteristics customized for a project that override the
15 default characteristics of its corresponding part object; and

16 means for linking members of the enterprise with part objects and
17 customized part references via a collaborative engineering environment
18 (CEE), the CEE having a framework for collaboration which provides
19 access control, security, search mechanisms, concurrency control,
20 versioning, information structuring, information mapping and exchange,
21 wherein the information available to each member is information
22 necessary for the member to complete role and team based tasks, and
23 wherein the linking means comprises a plurality of tools, each tool
24 communicating information with the ODBMS.

1 13. A method as recited in claim 11, wherein the step of providing new
2 parts, further comprises:
3 capturing technology and model information by members of the
4 enterprise; and
5 associating the captured information with a system component for
6 entry into the product catalog.

1 14. A method as recited in claim 13, further comprising:
2 entering new part objects into the product catalog, wherein the new
3 part objects correspond to system components associated in the associating
4 step.

1 15. A method as recited in claim 13, further comprising:
2 entering updated part object information into the product catalog
3 when captured information results in necessary modification to an existing
4 part and not identification of a new part, wherein the updated part objects
5 correspond to system components associated in the associating step.

1 16. A method as recited in claim 13, wherein the new or updated part
2 objects are reviewed by at least one member of the enterprise having
3 authority to accept or reject the part objects, and wherein if a new or
4 updated part object is rejected it is not entered into the product catalog, but
5 if a new or updated part object is accepted, it is entered into the product
6 catalog.

1 17. A method as recited in claim 16, further comprising notifying
2 members of the enterprise that new parts or part information are available.

1 18. A method as recited in claim 17, wherein the step of notifying further

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2 comprises automatically updating project specific parts and components
3 with modified part information for updated parts.

1 19. A method as recited in claim 11, further comprising:
2 retrieving part information from the part catalog by members of a
3 project within the enterprise; and
4 customizing retrieved part information for use in a project.

1 20. A method as recited in claim 19, wherein the step of customizing
2 further comprises:
3 maintaining desired default characteristics for retrieved part
4 information;
5 overriding default characteristics for retrieved part information, as
6 necessary to represent system components of the project; and
7 extending part information with additional part characteristics, as
8 necessary to represent system components of the project, the additional
9 part characteristics being omitted from part information retrieved in the
10 product catalog.

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